

INDEX CONTRAST ENHANCED OPTICAL WAVEGUIDES AND FABRICATION METHODS

ABSTRACT OF DISCLOSURE

[0077] A method of forming a waveguide including a core region, a cladding region, and an index contrast region situated therebetween includes depositing a polymerizable composite on a substrate to form a layer, patterning the layer to define an exposed area and an unexposed area of the layer, irradiating the exposed area of the layer, and volatilizing the uncured monomer to form the waveguide, wherein the polymerizable composite includes a polymer binder and sufficient quantities of an uncured monomer to diffuse into the exposed area of the layer and form the index contrast region. The resulting waveguide includes an index contrast region which has a lower index of refraction than that of the core and cladding regions.